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| 10/771,040 | 02/03/2004 | Frank P. Uckert | UC0210USNA | 1544 |

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| EXAMINER |
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THOMPSON, CAMIE S

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| ART UNIT | PAPER NUMBER |
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1774

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08/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|-------------------------------|--|
| Office Action Summary | Application No. 10/771,040 | Applicant(s) UCKERT ET AL. | |
| | Examiner Camie S. Thompson | Art Unit 1774 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed June 3, 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-12, 14 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 14 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed June 3, 2007 are acknowledged.
2. Examiner acknowledges amended claims 1, 5-6 and 8-12.
3. Examiner acknowledges cancelled claims 7 and 13.
4. Examiner acknowledges newly added claims 18-20.
5. The rejection of claims 1 and 13 under 35 U.S.C. 102(b) as being anticipated by Woo et al., U.S. Patent Number 5,962,631 is overcome by applicant's amendment. Applicant has not amended claim 14 thus not overcoming the Woo rejection for claim 14.
6. The rejection of claims 1-2 and 11 under 35 U.S.C. 102(b) as being anticipated by O'Dell et al., U.S. Pre Grant Publication 2004/0158017 is overcome by applicant's amendment. Applicant has not amended claim 14 thus not overcoming the O'Dell rejection for claim 14.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

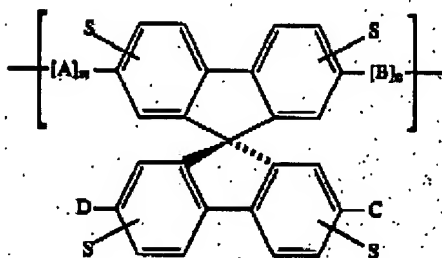
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 1774

8. Claim 1-2, 4, 8-12, 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kreuder et al., U.S. Patent Number 5,621,131.

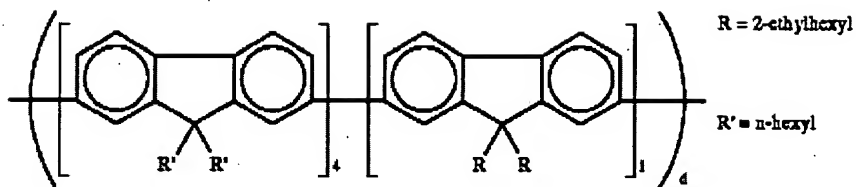
Kreuder discloses an electroluminescent device that comprises one or more active layers that comprises one or more polymers wherein the polymers are formed from recurring units of a spirofluorene compound



It is disclosed in the Kreuder reference that m and n can be zero; S can be straight-chain or branched alkyl groups having 1-22 carbon atoms and C and D can be arylene or heteroarylene as per instant claims 1-2, 4, 8-12, 14 and 18-20 (see reference claims 1-3 and 5-8; column 10, lines 21-30). Examples in the Kreuder disclose that the substituents are located at the 9-position.

9. Claims 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Woo et al., U.S. Patent Number 5,962,631.

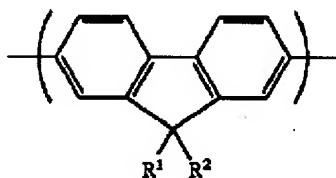
Woo discloses a light emitting device that has an active layer disposed between two electrodes (see reference claim 11). Additionally, Woo discloses that the active layer comprises a polymer such as



The Woo reference reads on the instant claims when the substituents are C1 to C20 linear alkyl moieties. The alkyl substituents in the Woo reference are 1:1 as per the instant claims. Woo discloses a method for preparing a polymer composition by treating the monomers with reagents capable of adding substituents to the monomers (see columns 13-14).

10. Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by O'Dell et al., U.S. Pre Grant Publication 2004/0158017.

O'Dell discloses a polymer having a first repeat unit comprising a monomeric group having the formula



wherein R^1 and R^2 comprise substituted or unsubstituted aryl groups (see reference claim 1).

Additionally, O'Dell discloses in claim 3 that R^1 and R^2 can be different. O'Dell also discloses the use of the polymer in an electroluminescent device as required by the instant claims.

Art Unit: 1774

21-30). Examples in the Kreuder disclose that the substituents are located at the 9-position.

O'Dell discloses the preparation of the polymer composition by treating the monomer with reagents capable of substitution addition (see paragraph 0067-0085).

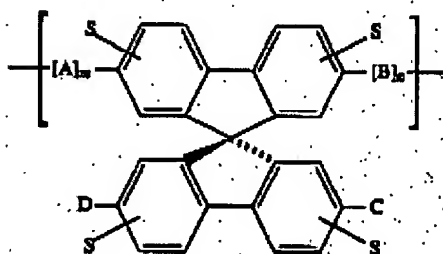
Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuder et al., U.S. Patent Number 5,621,131..

Kreuder discloses an electroluminescent device that comprises one or more active layers that comprises one or more polymers wherein the polymers are formed from recurring units of a spirofluorene compound



Art Unit: 1774

It is disclosed in the Kreuder reference that m and n can be zero; S can be straight-chain or branched alkyl groups having 1-22 carbon atoms and C and D can be arylene or heteroarylene as (see reference claims 1-3 and 5-8; column 10, lines 21-30). Kreuder discloses that there are recurring units of the spirofluorene compound with alkyl substituents. Kreuder does not disclose the molar ratio of the first and second alkyl substituents. Therefore, it would have been obvious to one of ordinary skill in the art that recurring monomeric units have differing alkyl substituents in order to have adjusted emission over the entire range of the visible spectrum as per instant claims 5-6 (see column 7, lines 53-66).

Response to Arguments

13. Applicant's arguments filed June 3, 2007 have been fully considered but they are not persuasive. Applicant argues that there is no suggestion in Woo of the process recited in claim

14. It is disclosed in column 13 and 13 of the Woo reference that the fluorene monomers are treated with nickel catalysts to obtain fluorene monomers with substituents. Applicant argues that there is no teaching or suggestion of the process as recited in instant claim 14. O'Dell discloses in paragraphs 0067 to 0085 that the fluorene monomers were treated with boron trifluoride diethyletherate and potassium carbonate to obtain fluorene monomers with alkyl substituents. The rejections of claims 14 by O'Dell and Woo are maintained.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1774

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano, can be reached at (571) 272-3186. The fax phone number for the Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



MILTON I. CANO
SUPERVISORY PATENT EXAMINER